

Product Specification

915 MHz IPEX Antenna Module

Customer Name	Chengdu Ashining Technology Co., Ltd.
Project Name	TX900-JKAX020
Antenna Type	915 MHz Band, IPEX Interface
Customer Address	Room 208, Chengdu Intelligent Information Industrial Park, No. 898 Baicao Road, Chengdu
REV	V1.0
Date	2022/01/19

Supplier Approval

Prepared By	Checked By	Approved By
Huang Yongjun	Wang Yumei	Jiang Zhenhua

Customer Approval

Checked By	Approved By	Approval

Testing Equipment and Principle

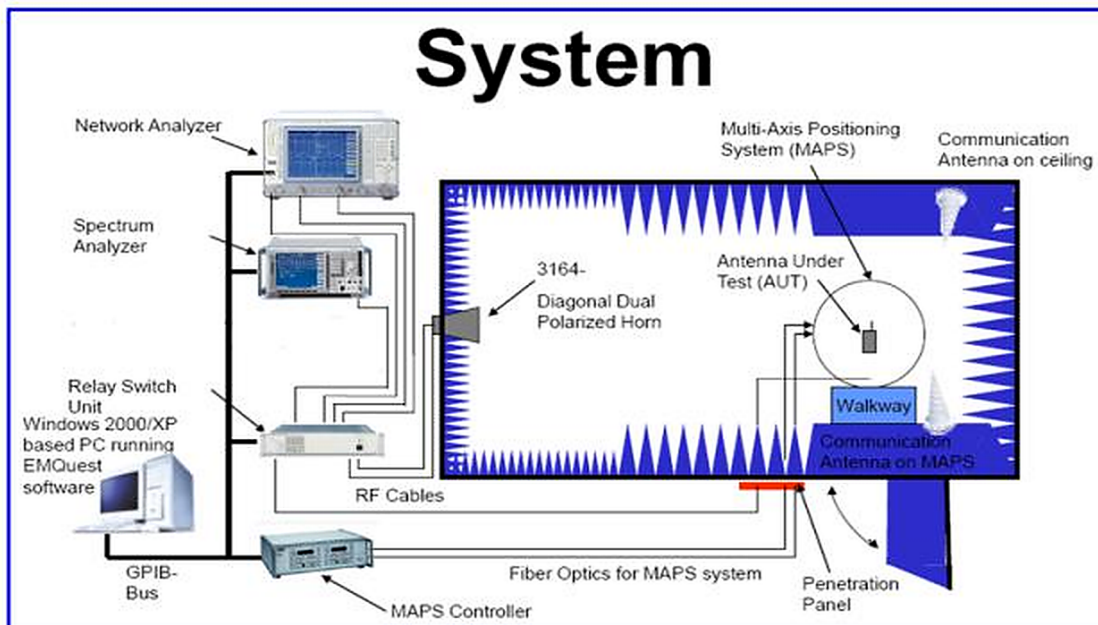
1. Testing Equipment

Network Analyzer: Agilent 8753D / 5071B

Communications Test Set: Agilent E5515C

3D Chamber Test System:

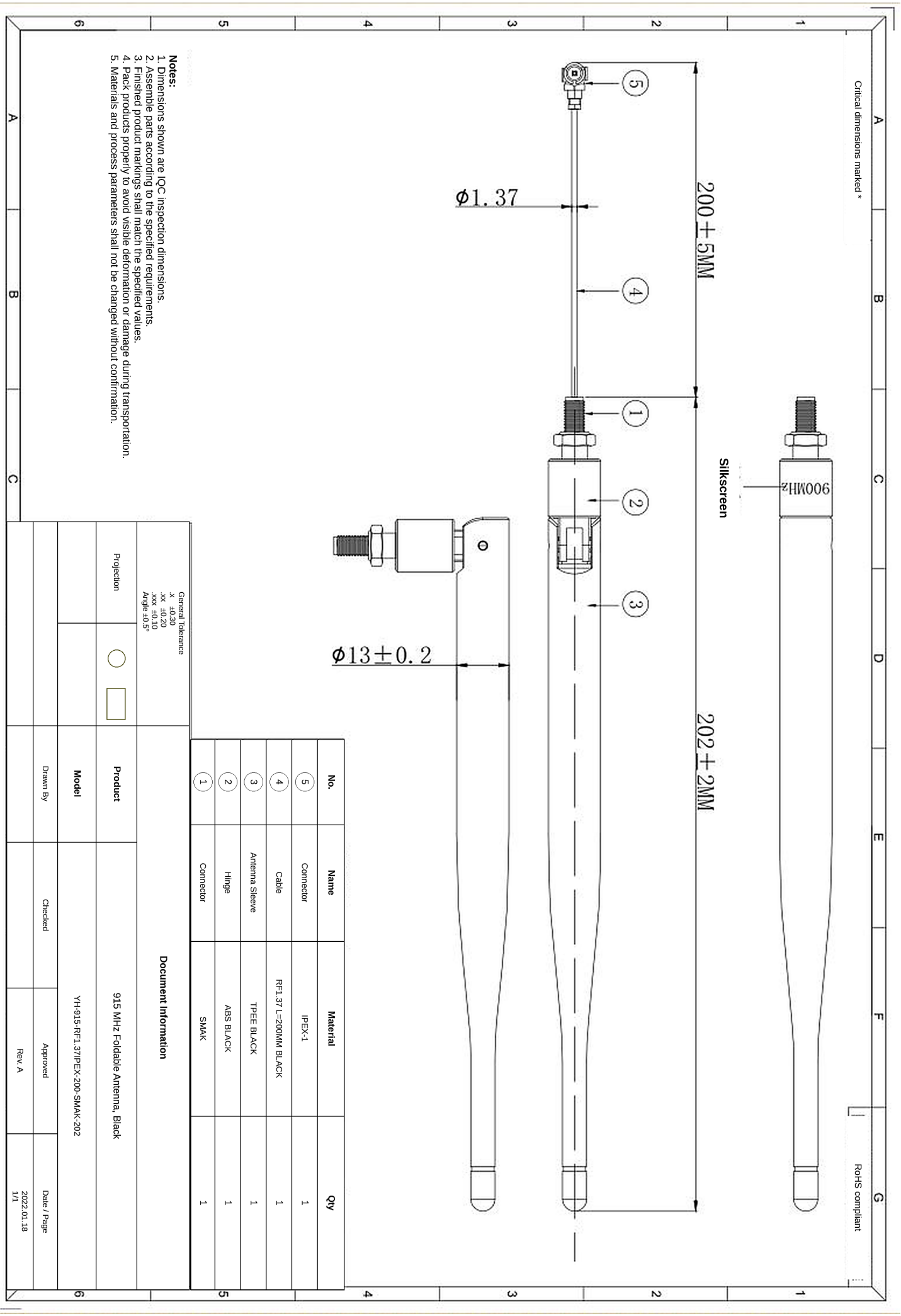
2. Testing Principle



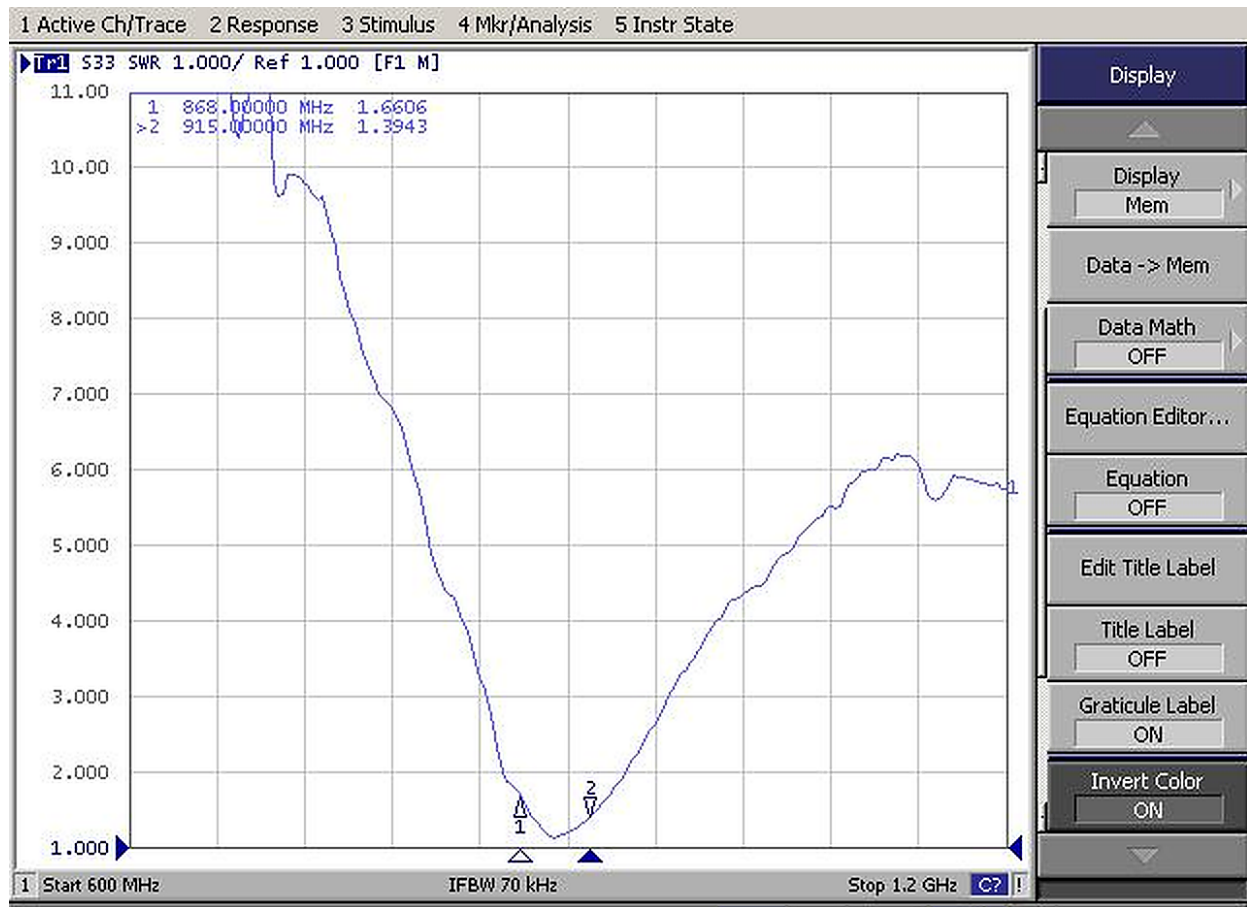
1. Electrical and Mechanical Specifications

Electrical Specifications	
Frequency Range	915 MHz
VSWR	≤ 2.0
Gain	≤ 1.5 dBi
Radiation	OMNI
Polarization	LINEAR
Input Impedance	50 Ω
Mechanical Specifications	
Input Connector	IPEX
Antenna Material	ABS & COPPER
Working Temperature	-30°C to +80°C
Working Humidity	40% to 85%

2. Antenna Structure and Dimensions



3. Passive Test Data

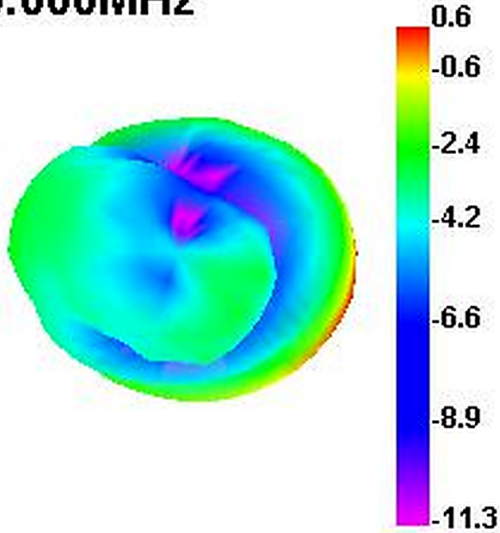


4. Gain and Efficiency Test Data

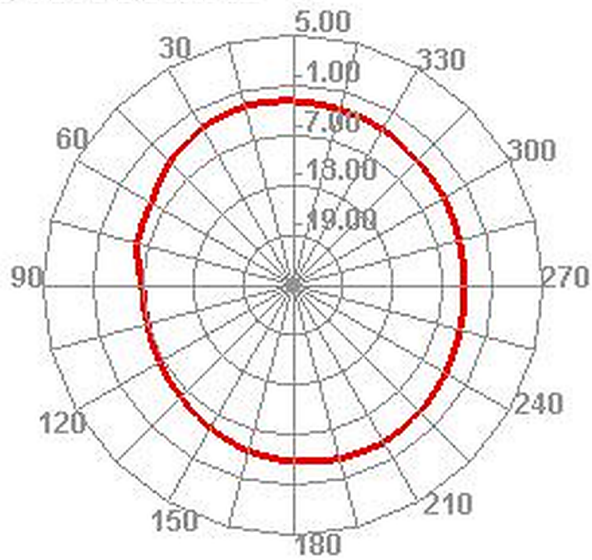
Freq (MHz)	Efficiency (%)	Efficiency (dB)	Gain (dBi)	Gain (dBd)
900	48.74	-3.12	1.62	-0.53
901	47.22	-3.26	1.51	-0.64
902	44.82	-3.48	1.34	-0.81
903	42.14	-3.75	0.96	-1.19
904	40.04	-3.97	0.83	-1.32
905	38.63	-4.13	0.69	-1.46
906	38.23	-4.18	0.54	-1.61
907	38.68	-4.12	0.71	-1.44
908	40.02	-3.98	0.92	-1.23
909	41.81	-3.79	1.09	-1.06
910	43.63	-3.6	1.34	-0.81
911	44.58	-3.51	1.43	-0.72
912	44.3	-3.54	1.46	-0.69
913	42.72	-3.69	1.22	-0.93
914	40.57	-3.92	1.89	-0.26
915	43.12	-4.19	1.58	-0.57
916	41.38	-4.39	1.43	-0.72
917	40.24	-4.53	1.33	-0.82
918	39.9	-4.57	1.2	-0.95
919	40.67	-4.48	1.26	-0.89
920	42.32	-4.28	1.43	-0.72

5. Directional Test Data

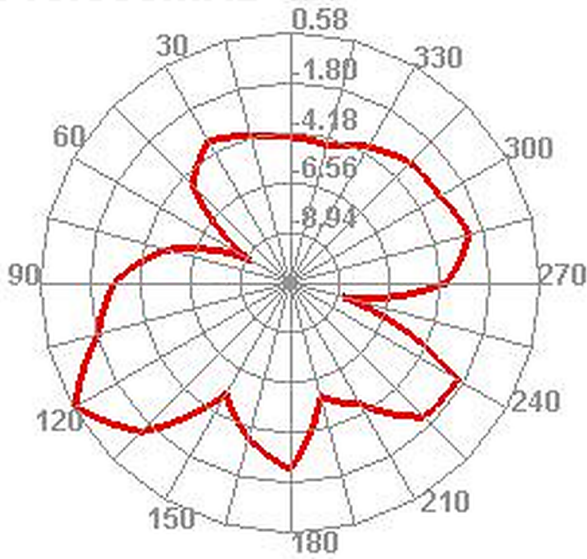
915.000MHz



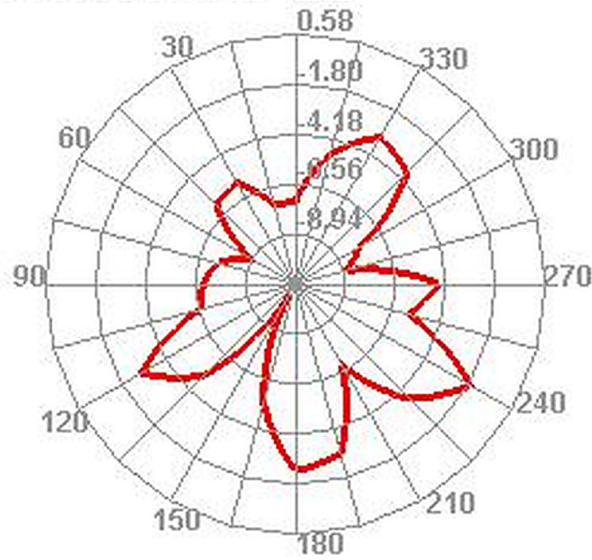
915.000MHz H



915.000MHz E1



915.000MHz E2



6. Reliability Test Report

Code	Test Item	Test Method	Requirement	Result
C1	V.S.W.R.	Test according to network analyzer parameters.	Comply with DUT specifications.	pass
M1	Antenna Gain	Test according to antenna chamber parameters.	Comply with DUT specifications.	pass
M2	Vibration	GB/T 2423.48-2008 Amplitude: 0.03 inch (1.5 mm); Freq.: 20 to 80 to 20 Hz; 3 directions; 2 hours for each direction.	1. No visual damage 2. Frequency tolerance $\leq$ 5%.	pass
M6	Random Drop	GB/T 2423.8-1995 Single: Height: 1.0 m; 3 directions; 1 time for each direction.	1. No parts separated or fractured 2. Frequency tolerance $\leq$ 5%.	pass
E3	Dimension	Inspection of dimension, color, material, package, and surface process.	Comply with DUT specifications.	pass
E4	Temperature and Humidity Chamber	GB/T 2423.3-2006 Temp.: 80°C / 12 h; -40°C / 12 h; RH $\geq$ 90%; Time: 24 h.	After 2 hours recovery: 1. No visual damage 2. Frequency tolerance $\leq$ 5%.	pass
E5	Thermal Shock	GB/T 2423.22-2008 -40°C (30 minutes) to +80°C (30 minutes); Cycles: 24.	After 2 hours recovery: 1. No visual damage 2. Frequency tolerance $\leq$ 5%.	pass
R1	Aging Test	GB/T 2423.2-2008 Temp.: 80°C; Time: 24 hours.	After 2 hours recovery: 1. No visual damage 2. Frequency tolerance $\leq$ 5%.	pass
M1	RoHS	With reference to IEC 62321:2008 with flow chart.	Comply with RoHS 2015/863/EU.	pass

7. Product Packaging Specification

Product Name / Specification

1. Label Requirements

Purchase Order No.	*****
Material Code	*****
Product Name/Spec.	*****
Quantity/Unit	*****
Remarks	*****

Purchase Order No.	*****
Material Code	*****
Product Name/Spec.	*****
Quantity/Unit	*****
Remarks	*****

2. Packing Requirements

Work Instructions:

1. Inner Packaging:

1 product per PE bag.

2. Outer Packaging:

Carton quantity is determined according to the actual order quantity.

PE Bag

Carton

Precautions:

1. Add dividers or EPE foam if required.

2. Attach required labels, such as RoHS labels.